

NPDES PERMIT NO. NM0030678

FACT SHEET

FOR THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

APPLICANT

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ISSUING OFFICE

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DATE PREPARED

July 7, 2015

PERMIT ACTION

Proposed reissuance of the current NPDES permit that was issued on June 11, 2010, with an effective date of July 1, 2010, and an expiration date of June 30, 2015.

RECEIVING WATER – BASIN

Acoma Creek – Rio San Jose – Rio Puerco - Rio Grande Basin

DOCUMENT ABBREVIATIONS

In the document that follows, various abbreviations are used. They are as follows:

| | |
|-------|----------------------------------------------------------------------------|
| 4Q3 | Lowest four-day average flow rate expected to occur once every three-years |
| BAT | Best available technology economically achievable |
| BCT | Best conventional pollutant control technology |
| BPT | Best practicable control technology currently available |
| BMP | Best management plan |
| BOD | Biochemical oxygen demand (five-day unless noted otherwise) |
| BPJ | Best professional judgment |
| CD | Critical dilution |
| CFR | Code of Federal Regulations |
| cfs | Cubic feet per second |
| COD | Chemical oxygen demand |
| COE | United States Corp of Engineers |
| CWA | Clean Water Act |
| DMR | Discharge monitoring report |
| ELG | Effluent limitation guidelines |
| EPA | United States Environmental Protection Agency |
| ESA | Endangered Species Act |
| FCB | Fecal coliform bacteria |
| F&WS | United States Fish and Wildlife Service |
| ug/l | Micrograms per liter (one part per billion) |
| mg/l | Milligrams per liter (one part per million) |
| MGD | Million gallons per day |
| NMAC | New Mexico Administrative Code |
| NMED | New Mexico Environment Department |
| NMIP | New Mexico NPDES Permit Implementation Procedures |
| NMWQS | New Mexico State Standards for Interstate and Intrastate Surface Waters |
| NPDES | National Pollutant Discharge Elimination System |
| ML | Minimum quantification level |
| O&G | Oil and grease |
| POTW | Publically owned treatment works |
| RP | Reasonable potential |
| SIC | Standard industrial classification |
| s.u. | Standard units (for parameter pH) |
| SWQB | Surface Water Quality Bureau |
| TDS | Total dissolved solids |
| TMDL | Total maximum daily load |
| TRC | Total residual chlorine |
| TSS | Total suspended solids |
| UAA | Use attainability analysis |
| USGS | United States Geological Service |
| WET | Whole effluent toxicity |
| WQCC | New Mexico Water Quality Control Commission |
| WQMP | Water Quality Management Plan |
| WWTP | Wastewater treatment plant |

As used in this document, references to State water quality standards and/or rules, regulations and/or management plans may mean the State of New Mexico and/or Tribal or both.

I. CHANGES FROM THE PREVIOUS PERMIT

Changes from the permit previously issued on June 11, 2010, with an effective date of July 1, 2010, and an expiration date of June 30, 2015 include

- a. Limit for percent removal of BOD has been added;
- b. Limit for percent removal of TSS has been added;
- c. The TDS monitoring frequency has been changed to once every quarter;
- d. The TRC monitoring frequency have been changed to two a week; and,
- e. A 7-Day bio-monitoring testing and annual 48-Hour bio-monitoring testing have been proposed.

II. APPLICANT LOCATION and ACTIVITY

As described in the application, the facility is located on the Pueblo of Laguna Tribal land near the intersection of Interstate 40 and Indian Service Route #22, in Cibola County, New Mexico.

Under the Standard Industrial Classification Code 4952, the applicant operates a POTW with a design flow capacity of 0.19 MGD. The plant services Dancing Eagle Casino, restaurant, travel center and a small local residential area.

The treatment works are a Kubota™ design Membrane Bioreactor (MBR) employing two MBR basins with 4 plate cartridges in each basin. The two basins operate simultaneously except during brief times when maintenance is being performed on one unit. The combined twin MBR design flow is 0.19 MGD with peak flow capability of 0.38 MGD.

Influent is pumped via two lift stations through an automated fine screen into a single anoxic tank under constant mixing. By gravity flow the wastewater then enters a single aerated tank continuing to the MBR basins. From the MBR basins the recycled mixed liquor suspended solid is pumped back to the anoxic tank and treated permeate is pumped through the storage tank with gravity to the outfall structure, with chlorine injection on the outlet side of the pump. Effluent metering is done on 2 discharge trains each of which takes care of a single MBR basin.

Waste sludge is drawn from the recycle line as required and placed in a lined aerated lagoon for extended treatment. All pumps and blowers are configured as duty with a standby and the entire facility has a backup generator configured to automatically run as required.

The discharge from the POTW through Outfall 001 at Latitude 35° 01' 37" North and Longitude 107° 28' 11" West is to Acoma Creek on Pueblo of Laguna Tribal land, which is approximately 1.5 miles before its convergence with the Rio San Jose. The Rio San Jose is a perennial stream. It becomes intermittent when flow is diverted during the growing season for irrigation water within the village jurisdictions. The flow in the lower reaches of the Rio San Jose below the Highland Meadows area flows year round to its convergence with the Rio Puerco and makes the majority of flow in the Rio Puerco between the Pueblos of Laguna and Isleta. A map of the facility is provided in **Figure 1** below.

III. EFFLUENT CHARACTERISTICS

A quantitative description of the discharge(s) described in the EPA Permit Application Form 2A received on December 17, 2014, are presented below:

POLLUTANT TABLE - 1

| Parameter | Max | Avg |
|----------------------------------------|---------------------|---------|
| | (mg/l unless noted) | |
| Flow, million gallons/day (MGD) | 0.05 | 0.04 |
| Temperature, winter | 10.0 °C | 10.0 °C |
| Temperature, summer | 20.0 °C | 20.0 °C |
| pH, minimum, standard units (SU) | 7.8 su | N/A |
| pH, maximum, standard units (SU) | 8.2 su | N/A |
| Biochemical Oxygen Demand, (BOD) | 5.0 | 2.5 |
| Fecal Coliform (FCB) (bacteria/100 ml) | 3.1 | 1.3 |
| Total Suspended Solids (TSS) | 10 | 5.0 |
| Ammonia (NH3) | 1.0 | 1.0 |
| Chlorine, Total Residual (TRC) | 0.0 | 0.0 |
| Dissolved Oxygen | 7.5 | 6.53 |
| Total Kjeldahl Nitrogen (TKN) | 2.0 | 2.0 |
| Nitrate plus Nitrite Nitrogen | 16.0 | 15.75 |
| Oil and grease | 20.0 | 8.75 |
| Phosphorus, Total | 4.9 | 4.70 |
| Total Dissolved Solids (TDS) | 2360 | 2172 |

A summary of the last 3-years of pollutant data taken from DMRs indicates no reported violations for limited parameters. The maximum and averages are as follows: BOD – 14.9 mg/l max, 0.0 mg/l avg, TSS – 14 mg/l max, 0 mg/l avg, E. coli – 11.6 bacteria/100 ml max, 0.5 bacteria/100 ml avg, pH – 8.2 su max, 7.2 su avg, and TRC -- 0 mg/l max, 0 mg/l avg.

IV. REGULATORY AUTHORITY/PERMIT ACTION

In November 1972, Congress passed the Federal Water Pollution Control Act establishing the NPDES permit program to control water pollution. These amendments established technology-based or end-of-pipe control mechanisms and an interim goal to achieve “water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water”; more commonly known as the “swimmable, fishable” goal. Further amendments in 1977 of the CWA gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry and established the basic structure for regulating pollutants discharges into the waters of the United States. In addition, it made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. Regulations governing the EPA administered NPDES permit program are generally found at 40 CFR §122 (program requirements & permit conditions), §124 (procedures for decision making), §125 (technology-based standards) and §136

(analytical procedures). Other parts of 40 CFR provide guidance for specific activities and may be used in this document as required.

It is proposed that the permit be reissued for a 5-year term following regulations promulgated at 40 CFR §122.46(a). The previous permit will be expired on June 30, 2015. The application was received on December 17, 2014. The existing permit is administratively continued until this permit is issued.

V. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

A. OVERVIEW OF TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations contained in 40 CFR §122.44 NPDES permit limits are developed that meet the more stringent of either technology-based effluent limitation guidelines, numerical and/or narrative water quality standard-based effluent limits, or the previous permit.

Technology-based effluent limitations are established in the proposed draft permit for TSS and BOD₅. Water quality-based effluent limitations are established in the proposed draft permit for E. coli bacteria, pH and TRC.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

Regulations promulgated at 40 CFR §122.44 (a) require technology-based effluent limitations to be placed in NPDES permits based on ELGs where applicable, on BPJ in the absence of guidelines, or on a combination of the two. In the absence of promulgated guidelines for the discharge, permit conditions may be established using BPJ procedures. EPA establishes limitations based on the following technology-based controls: BPT, BCT, and BAT. These levels of treatment are:

BPT - The first level of technology-based standards generally based on the average of the best existing performance facilities within an industrial category or subcategory.

BCT - Technology-based standard for the discharge from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and O&G.

BAT - The most appropriate means available on a national basis for controlling the direct discharge of toxic and non-conventional pollutants to navigable waters. BAT effluent limits represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

The facility is a POTW treating sanitary wastewater. POTW's have technology-based ELG's established at 40 CFR Part 133, Secondary Treatment Regulation. Pollutants with ELG's established in this Chapter are BOD, TSS and pH. BOD limits of 30 mg/l for the 30-day average and 45 mg/l for the 7-day average are found at 40 CFR §133.102(a). TSS limits; also 30 mg/l for

the 30-day average and 45 mg/l for the 7-day average, are found at 40 CFR §133.102(b). ELG's for pH are between 6-9 s.u. and are found at 40 CFR §133.102(c). Regulations at 40 CFR §122.45(f)(1) require all pollutants limited in permits to have limits expressed in terms of mass such as pounds per day. When determining mass limits for POTW's, the plant's design flow is used to establish the mass load. Mass limits are determined by the following mathematical relationship:

Loading in lbs/day = pollutant concentration in mg/l * 8.345 lbs/gal * design flow in MGD
 30-day average BOD/TSS loading = 30 mg/l * 8.345 lbs/gal * 0.190 MGD
 30-day average BOD/TSS loading = 47.5 lbs

A summary of the technology-based limits for the facility is:

Final Effluent Limits - 0.190 MGD design flow.

| EFFLUENT CHARACTERISTICS | DISCHARGE LIMITATIONS | | | |
|---------------------------------------|-----------------------|------------|--------------------------|-------------|
| | lbs/Day | | mg/l (unless noted) | |
| Parameter | 30-Day Avg. | 7-Day Avg. | 30-Day Avg. | 7-Day Avg. |
| Flow | N/A | N/A | Measure MGD | Measure MGD |
| BOD ₅ | 47.5 | 71.3 | 30 | 45 |
| TSS | 47.5 | 71.3 | 30 | 45 |
| BOD ₅ /TSS, % removal (*1) | ≥85 | --- | --- | --- |
| pH | N/A | N/A | 6.0 – 9.0 standard units | |

*1 Percent removal is calculated using the following equation: [(average monthly influent concentration – average monthly effluent concentration) ÷ average monthly influent concentration] * 100.

C. WATER QUALITY BASED LIMITATIONS

1. General Comments

Water quality based requirements are necessary where effluent limits more stringent than technology-based limits are necessary to maintain or achieve federal or state water quality limits. Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on federal or state WQS. Effluent limitations and/or conditions established in the draft permit are in compliance with applicable State WQS and applicable State water quality management plans to assure that surface WQS of the receiving waters are protected and maintained, or attained.

2. Implementation

The NPDES permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations and/or conditions are included in the NPDES permits. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other available toxicity information to determine the

adequacy of technology-based permit limits and the need for additional water quality-based controls.

3. Water Quality Standards

The discharge is located on Pueblo of Laguna Tribal land. The discharge flows approximately 38 miles before it reaches the Rio Puerco on the western boundary of the Pueblo of Isleta. The discharge then travels an additional 5 miles further downstream before it reaches State of New Mexico waters. The Pueblo of Laguna does not have approved water quality standards but the Pueblo of Isleta does. The permit drafter believes that given the distance from the source and the Pueblo of Isleta and the low discharge volume, the impact of the effluent on the Pueblo of Isleta from the discharge is negligible and would only reach the Pueblo of Isleta waters under direct precipitation events. Permit limits for water quality pollutants will be based on national EPA guidance lacking and these standards will be protective of Pueblo of Isleta WQS and supportive of regulations contained at 40 CFR §122.4(d); ensuring that permit conditions are applicable for all affected States.

The CWA §§ 101(a)(2) and 303(c) require water quality standards to provide, wherever attainable, water quality for the protection and propagation of fish, shellfish, wildlife, and recreation in and on the water, functions commonly referred to as “fishable/swimmable” uses. EPA's current water quality regulation effectively establishes a rebuttable presumption that “fishable/swimmable” uses are attainable and therefore should apply to a water body unless it can be demonstrated that such uses are not attainable. Until a UAA is submitted and approved by EPA to support a lesser aquatic life designation that does not meet the CWA §101(a)(2) objective as required by 40 CFR §131.10(j)(1) the permit conditions will be based on protecting fishable/swimmable uses.

4. Permit Action - Water Quality-Based Limits

Regulations promulgated at 40 CFR §122.44(d) require limits in addition to, or more stringent than effluent limitation guidelines (technology based). State WQS that are more stringent than effluent limitation guidelines are as follows:

a. BACTERIA

Both the Acoma Creek and Rio San Jose must be protective of the “fishable/swimmable” uses. The standards of 126 cfu/100 ml daily monthly geometric mean and 235 cfu/100 ml daily maximum for E. coli from the previous permit will be continued in the draft permit. The E. coli monitoring frequency requirement in the draft permit is proposed to two per month.

b. pH

Limitations on maximum and minimum pH are in accordance with 40 CFR 133.102. The pH of effluent should not be less than 6.0 or greater than 9.0. The limits from the previous permit will be continued in the draft permit.

b. TOXICS

i. General Comments

The CWA in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR §122.44 (d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criteria, the permit must contain an effluent limit for that pollutant.

All applicable facilities are required to fill out appropriate sections of the Form 2A and 2S, to apply for an NPDES permit or reissuance of an NPDES permit. The new form is applicable not only to POTWs, but also to facilities that are similar to POTWs, but which do not meet the regulatory definition of “publicly owned treatment works” (like private domestics, or similar facilities on Federal property). The forms were designed and promulgated to “make it easier for permit applicants to provide the necessary information with their applications and minimize the need for additional follow-up requests from permitting authorities,” per the summary statement in the preamble to the Rule. These forms became effective December 1, 1999, after publication of the final rule on August 4, 1999, Volume 64, Number 149, pages 42433 through 42527 of the FRL.

The facility is designated as a minor, and does not need to fill out the expanded pollutant testing section Part D of Form 2A. There are no toxics that need to be placed in the draft permit except for TRC described below.

ii. TRC

The facility uses chlorine to control bacteria or disinfect control equipment, the 11 µg/l TRC limit from the previous permit will be continued in the draft permit. The facility has used a de-chlorination method effectively. The past 3-years of DMR data indicates the facility effluent did not exceed of the 11 ug/l TRC limit. The TRC monitoring frequency requirement in the draft permit is proposed to two per week.

D. MONITORING FREQUENCY FOR LIMITED PARAMETERS

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity, 40 CFR §122.48(b), and to assure compliance with permit limitations, 40 CFR §122.44(i)(1). Technology based pollutants (i.e., BOD and TSS) are proposed to be monitored two per month; flow is proposed to be continuously monitored when discharging; and, pH is proposed to be monitored 5 times per week. Sample type for BOD, TSS and pH are grab which is consistent with the previous permit.

Water quality-based pollutant monitoring frequency for E. coli shall be two per month by grab sample. TRC shall also be sampled two per week using instantaneous grab samples.

Regulations at 40 CFR §136 define instantaneous grab as being analyzed within 15-minutes of collection.

E. WHOLE EFFLUENT TOXICITY LIMITATIONS

Based on the information described in the EPA Permit Application (i.e, Form 3510-2A) received December 17, 2014, the facility effluent has low flow volume, BOD and TSS concentrations. However, its maximum and average TDS concentrations are 2360 mg/l and 2172mg/l, respectively. EPA concerns that these TDS concentrations are high and could potentially have detrimental effects on the aquatic life. The draft permit proposes to increase the TDS monitoring frequency to one every quarter. One Chronic (7-day) bio-monitoring with Ceriodaphnia dubia (water flea) and Pimephates promelas (flathead minnow) is, also, to be conducted in the 1st year of the permit term. If the chronic test passes, then Acute (48-hr) bio-monitoring with Daphnia pulex (water flea) for remaining term of the permit at 1 per year frequency.

VI. FACILITY OPERATIONAL PRACTICES

A. SEWAGE SLUDGE

The permittee shall use only those sewage sludge disposal or reuse practices that comply with the federal regulations established in 40 CFR Part 503 "Standards for the Use or Disposal of Sewage Sludge". EPA may at a later date issue a sludge-only permit. Until such future issuance of a sludge-only permit, sludge management and disposal at the facility will be subject to Part 503 sewage sludge requirements. Part 503 regulations are self-implementing, which means that facilities must comply with them whether or not a sludge-only permit has been issued. Part IV of the draft permit contains sewage sludge permit requirements.

B. WASTE WATER POLLUTION PREVENTION REQUIREMENTS

The permittee shall institute programs directed towards pollution prevention. The permittee will institute programs to improve the operating efficiency and extend the useful life of the treatment system.

C. INDUSTRIAL WASTEWATER CONTRIBUTIONS

The treatment plant has no non-categorical Significant Industrial User's (SIU) and no Categorical Industrial User's (CIU). The EPA has tentatively determined that the permittee will not be required to develop a full pretreatment program. However, general pretreatment provisions have been required. The facility is required to report to EPA, in terms of character and volume of pollutants any significant indirect dischargers into the POTW subject to pretreatment standards under §307(b) of the CWA and 40 CFR Part 403.

D. OPERATION AND REPORTING

The applicant is required to operate the treatment facility at maximum efficiency at all times; to monitor the facility's discharge on a regular basis; and report the results quarterly. The monitoring results will be available to the public.

VII. 303(d) LIST

Acoma Creek is not listed as an impaired waterbody and no additional permit requirements are needed at this time. The standard reopener language in the permit allows additional permit conditions if warranted by future changes.

VIII. ANTIDegradation

The Pueblo of Laguna does not have approved WQS nor an antidegradation policy. The draft permit is protective of the receiving water and further downstream waters and states. There is no evidence based on available information that the discharge from the facility degrades existing uses.

IX. ANTIBACKSLIDING

The proposed permit is consistent with the requirements to meet antibacksliding provisions of the Clean Water Act, Section 402(o) and 40 CFR §122.44(l)(i)(A), which state in part that interim or final effluent limitations must be as stringent as those in the previous permit, unless material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation. The proposed permit maintains the mass loading requirements of the previous permit for BOD₅ and TSS. Bacteria, pH and TRC limits will be continued in the draft permit.

X. ENDANGERED SPECIES CONSIDERATIONS

Six species in Cibola County are recently listed as Endangered or Threatened, according to the U.S. Fish & Wildlife Service's (USFWS) website, http://ecos.fws.gov/tes_public/reports/species-by-current-range-county?fips=35001/E. The lone aquatic species is Zuni bluehead Sucker. Three of species are avian and include Yellow-billed Cuckoo, Southwestern willow flycatcher, and Mexican spotted owl. Additionally, Pecos and Zuni fleabane flowering plants is listed threatened.

In accordance with requirements under section 7(a)(2) of the Endangered Species Act, EPA has reviewed this permit for its effect on listed threatened and endangered species and designated critical habitat. After review, EPA has determined that the reissuance of this permit will have “no effect” on listed threatened and endangered species nor will adversely modify designated critical habitat. EPA makes this determination based on the following:

1. EPA has reviewed the available information regarding impacts of this action on listed species and designated critical habitat. EPA has determined that the issuance of this permit will have “no effect” on listed threatened and endangered species nor will it destroy nor adversely

modify designated critical habitat. EPA makes this determination by relying upon the United States Department of the Interior "Finding of No Significant Impact" dated November 10, 1998, for the environmental assessment of the Casa Blanca Commercial Development project. Operation of the wastewater treatment plant and discharges were considered as part of the project by the EA.

2. No additions have been made to critical habitat designation in the area of the discharge since prior issuance of the permit.

3. EPA has received no additional information since the previous permit issuance which would lead to revision of its determinations.

4. The draft permit has been made more restrictive from the previous permit.

5. EPA determines that Items 1, 2, 3, and 4 result in no change to the environmental baseline established by the previous permit, therefore, EPA concludes that reissuance of this permit will have "no effect" on listed species and designated critical habitat.

XI. HISTORICAL and ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

The reissuance of the permit should have no impact on historical and/or archeological sites since no construction activities are planned in the reissuance.

XII. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if State/Tribal Water Quality Standards are promulgated or revised. In addition, if either the State and/or Tribe develops a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that TMDL. Modification of the permit is subject to the provisions of 40 CFR §124.5.

XIII. VARIANCE REQUESTS

No variance requests have been received.

XIV. CERTIFICATION

EPA has drafted the permit in accordance with downstream state Pueblo of Isleta WQS. However, the origin of the discharge is on Pueblo of Laguna Tribal land, and they do not have EPA approved WQS. EPA has drafted the permit and will provide copies for inspection to all affected downstream States/Tribes for comments. EPA will also send a draft permit and a draft public notice to the District Engineer, Corps of Engineers, Regional Director of the U.S. Fish and

Wildlife Service, and the National Marine Fisheries Service prior to the publication of that notice. EPA is acting as the certifying authority for the permit consistent with 40 CFR §124.53.

XV. FINAL DETERMINATION

The public notice describes the procedures for the formulation of final determinations.

XVI. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION(s)

EPA Application Forms 2A and 2S received on December 17, 2014.

B. 40 CFR CITATIONS

40 CFR Sections 122, 124, 125, 133, 136

C. MISCELLANEOUS

Ambient Water Quality Criteria for Chlorine – 1984, EPA - Office of Water, January 1985

Ambient Water Quality Criteria for Bacteria – 1986, EPA - Office of Water, January 1986

FIGURE 1 - Site

